DOCUMENT RESUME

ED 120 962 EA 008 125

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TITLE Post-Bureaucratic Organization and Educational Innovation.
PUB DATE Apr 76
NOTE 28p.; Paper presented at the Annual Meeting of the American Educational Research Association (San Francisco, California, April 19-23, 1976). Not available in hard copy due to marginal legibility of original document

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS Boards of Education; *Bureaucracy; *Case Studies; Community Agencies (Public); Educational Change; *Educational Innovation; *Educational Planning; Elementary Secondary Education; Innovation; Management; Models; Organization; *Organizations (Groups); Problem Solving; School Systems; Specialists
IDENTIFIERS New York (New York); New York City Public Schools

ABSTRACT

The principles of structure and procedure for innovative organizations articulated by both postbureaucratic essayists and the organization theorists of innovation are identified. The conditions necessary to generate innovation--small, collegial, problem-solving groups; autonomy of line professionals; separation of planning from the process of management, and experimental models--are first analyzed in a theoretical context. The relevance of the conclusions drawn is then tested by examining their applicability in one traditional bureaucritic service organization--the New York City Board of Education. (Author)

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POST-BUREAUCRATIC ORGANIZATION AND EDUCATIONAL INNOVATION

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Paper Presented at the 1976
AERA Annual Meeting
San Fransisco
April, 1976

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As a typical service organization, the New York City school system traditionally has responded to its monopoly over educational services by perpetuating the status quo. Increasingly, however, it has allowed informal and formal mechanisms for developing innovative programs to emerge.

In the context of theories developed by post-bureaucratic essayists and the organization theorists of innovation, the following paper presents case study reviews of attempts at educational innovation within the New York City Board of Education during the years 1970-1973.

Certain general conditions, suggested by the literature on organizations and educational systems are confirmed by the case studies presented. Small, collegial, problem-solving groups, autonomy of line professionals, separation of planning from management, experimentation of models are isolated as post-bureaucratic factors contributing to educational innovation.

Introduction

In sociology and organizational theory, scholars artificially divide themselves into theorists and practicioners, the theorists too often convinced that the more programmatically inclined do work of meagre final significance, the practicioners too frequently satisfied that the more abstractly disposed are covered in a cloud of conceptualization. In either case, a mature sociological imagination is slighted and the fruitful middle ground left untended.

An essay on conditions critical for innovation in bureaucratic organizations contains within it the attractive possibility of plying the middle range of joining theory to practice in order to illuminate both. Initially, then, this paper draws a theoretical context around the principles necessary for innovation in organizations. In this theoretical framework, the focus is on the generation, not the implementation, of innovative plans, policies and programs within a bureau-

cratic setting. Theory and application are subsequently joined by a description of several programmatic innovations carried out by the New York City Board of Education and an examination of the reasons for their success or failure.

PART I

Post-Bureaucratic Conditions

1. Temporary Organizational Units

A wholly new type of organizational unit has arisen in response to the modern conditions of accelerating specialization and professionalization. Representing organizational evolution that has proceded "beyond bureaucracy", in Warren Bennis' (1970) well-known phrase, this post-bureaucratic organizational form manifests itself in such temporary kinds of forms as task forces and inter-agency teams, whose members come together to solve problems left unresolved by individual bureaucracies.

These temporary units are not, in contrast to bureaucracy itself, strictly differentiated through a hierarchical grid, but more "flexibly and functionally" through the task at hand. [1] Less rigid definition of office and duty provide the atmosphere necessary to sustain an emphasis on results rather than a bureaucratic preoccupation with procedure and regulation. [2] This is enhanced by a sense of cooperation attributable to the fact that the group members do not permanently identify themselves with these systems, possessing professional standards that transcend loyalties to any single organization. Kenneth Boulding, Peter Drucker, Philip Salter, Victor Thompson and Alvin Toffler are all in substantial agreement with such a picture of post-bureaucratic organization.[3]

2. Specialization and Expertise

As the tasks of these groups are accomplished, the product must be organized into an overall process of coordination.[4] That is, information from various specialists and specialist groups must be passed along to test for reliability and relevance, made to yield a decision, or be transmitted to some other group or committee for yet another decision. The organization itself becomes a hierarchy of committees, not departments, whose memberships shift on the basis of the task to be performed and the knowledge needed for it; decision becomes a product of groups, since no individual has more than a fraction of the necessary knowledge. Effective participation is less closely related to rank in the formal hierarchy than to knowledge possessed.

Thus, as knowledge becomes more particular, management's traditionally absolute right to substantive decision-making power is partially shifted to individuals in committees possessing specialized knowledge. If a decision requires the information possessed by a given group or committee, it cannot be safely reversed by an individual superior, who would in all probability have to obtain the judgment of other specialists, which again returns the power to decision groups. Hence, management more and more ratifies decisions that have already been made by groups possessing the necessary specialized knowledge, which in turn has alrady been tested for reliability and relevance by s ll other groups. Management may determine membership in committees, and recast it according to need and task, but management's decision-making power tends to be more and more concentrated in administration rather than policy formulation which increasingly requires knowledge possessed by specialized experts.

3. The Collegiate Principle and Organizational Authority

The imperatives of specialized knowledge and their impact on organization structure also reveal that, insofar as any single organization bows to these imperatives, the underlying feature of that organization's structure becomes what Max Weber called the collegiate principle. By this Weber meant the "synthesis of specialized experts into a collective unit (embodying) rational specialization of functions (and) the rule of expert knowledge" (1948, p. 237). Gailbraith's group decision process (1967), along with his view of organizations as composed of different sets of committees, closely resembles Weber's collegiate principle, albeit in a more atomized form. Yet, each collegial group within the organization would possess, at least according to Gailbraith's imperatives, a degree of freedom from external intervention and manipulation by superior authority that Weber never thought possible for collegial organizations.

Principles of Structure and Procedure in Innovative Organizations

In sum, Bennis, Gailbraith, Drucker (1968) and other writers in fundamental agreement with them, all view the imperatives of specialized knowledge and their embodiment in collegial groups as a singularly important way to infuse more responsive problem solving capacities into organizations. Implicit here is the idea that the post-bureaucratic collegial group may not totally restructure an existing bureaucracy but may merely constitute a unit within or parallel to it. Implicit also is the understanding that this kind of organizational unit is most appropriate for the generation, and initial acceptance, of an innovation rather than its implementation. However, because the causal relationships between post-bureaucratic organizational structure and the initiation of innovation are not treated directly, but only implicitly or secondarily by these writers, it is now necessary to recast

their ideas in terms of how post-bureaucratic organization actually facilitates innovation; to identify, in effect, principles of organizational structure and procedure for innovation.

1. Separation of Planning and Implementation

A first principle of structure in an innovative organization is the separation of the organizational processes for innovation from the organizational processes for management. The managerial portion of an organization can modify, extend, check or improve, but it is not designed for innovation. "More and more companies have, for instance, learned that it is futile to expect the truly new to come out of the existing product divisions within the company" (Drucker, 1968, pp. 55-56). An independent, but not entirely separate portion of the organization, should be responsible for innovation until it (the innovation) becomes established and routine.

There seems to be general agreement on this point among most writers dealing directly with organization and innovation. James Thompson[5] maintains that thinking and planning —the processes of innovation — ought to be made separate from doing. The separation of planning and execution is also important because the day-to-day operation of the organization more often than not effectively precludes necessary time for the researching, nurturing and sponsoring of new ideas. The separation also means that the planner or innovator can be held accountable for innovation because he is officially granted tht time; in addition, better selection of the right person for a given task may more likely occur[6]. Finally, an individual worker or the organizational unit responsible for generating innovation needs functional autonomy to enhance his or its exploratory and creative potential.

2. Use of Problem-Solving Groups

As much as possible, the work necessary for the innovative task should be done through small, problem-solving collegial groups or task forces, memberships shifting as the task or problem does.[7] As Gailbraith makes clear, the demands of specialization will often mandate this to be the case. George Berkley (1971) adds that a group can often provide the support, confidence and cross-fertilization of ideas that constitute the catalyzing spark necessary for the birth of the new. Groups can also reduce an intense, possibly dysfunctional, sense of individual responsibility and feelings of guilt if there is failure. This allows people to take more risks which stimulates creativity.

A subsidiary effect of group problem-solving is to increase what Robert Guest terms the individual's span of cognition, a "greater awareness of, knowledge about, and an active interest in the role which others(perform) and which (gives) greater meaning to their own specialized task" (1962, p. 111). Each group member develops a more detailed mental picture of how the different specialties necessary to the task fit together, of how the organization functions, of what resources, personnel, and material are available for innovation.

3. Testing the Model

The third principle in an innovative organization issues directly from the first two, and is procedural rather than structural in character. The collegial group, "collateral organization"[8] or task force is not a random process, but is, and must be, systematic. Problems and objectives are defined, alternate solutions carefully researched and evaluated, and one option finally chosen (and sometimes monitored): that is, defining

objectives reduced the fear of criticism by militating against an authoritarian approach, and the search for alternatives enhances possibilities for the emergence of a more feasible solution[9].

Most importantly, provision must be made for testing the effectiveness of an innovative idea on some kind of experimental basis. This, according to Peter Peterson, avoids the emasculation of an idea and its attrition due to organizational inertia[10]. The idea must have a unique impact with a limited amount of money in an experimental setting to tie the generation of an innovative program to its acceptance. This process would include relatively objective criteria by which to measure a new product or an innovative program.[11] Whether it be through cost effectiveness or progress reports, or through more complex measures, some technique must be employed to ensure that the innovative program or the new product is carrying the weight it requires in time, money, personnel, and resources.

Manufacturing vs. Service Organizations

These structural and procedural principles of organizational innovation naturally assume the existence of an ideal and consistent type of organization. In the literature that deals with organizations and innovation, however, there is a persistent tendency to ignore an absolutely critical distinction between organizations in the service sector and those in the manufacturing sector. While the scope of this paper permits only a partial elaboration of these differences, the fact that innovation emerges at such varying rates and in such different ways in these two types of organizations should be noted relative to the principles outlined. The major differences between innovating organizations in the service and manufacturing sectors center on two variables: the nature of the good produced and its value-density.

The most important of the differences is the nature of the product, for from this flow the other differences. In the manufacturing sector, highly complex and specialized information, tasks and processes are brought to bear on the development, production and consumption of a relatively simple product, or hard good. In the service sector, generally less specialized, less esoteric information tasks, and processes are brought to bear on the comparatively complex delivery of a service.

The differences between the hard goods of the manufacturing sector and the soft goods of the service realm lead to what Peter Drucker (1968) believes are crucially distinct orientations for the organizations in each sector. Manufacturing organizations, he argues, are fundamentally oriented toward effectiveness, for the simple reason that goods produced must sell, must meet the test of the economic market, of customers who maintain the precise, one-to-one relationship of a single consumer to a single product (pp. 195-198).

By contrast, service organizations are fundamentally oriented towards procedure, for the simple reason that the delivery of services requires a relatively complex interlocking series of administrative processes. In addition, many service organizations represent monopolies on the services they provide.[12] That is, there is not only a lack of competition for the delivery of the service, but also an absence in substitutability of the product. What this lack of competition really means is that there is no test of performance that both the service organization and its client agree upon. Since service organizations hold natural monopolies on many of their

services, their criteria of their performance remain more valid and reliable, from their perspective, than their clients' assessments,[13] unless and until political pressure is sufficient to change this. Left to themselves, they can concentrate upon their own demonstrable criteria of client welfare, and pursue what Katz and Eisenstadt term the "ritualistic formalism" of procedure and efficiency, thereby minimizing the possibilities and probabilities for innovation.[14]

Organizations in the manufacturing and service sectors are further distinquished by a product's value-density, or the degree to which a given product or service embodies, symbolizes, or becomes a focal point for, a conflict in social values. Here again, the market often provides a reliable test for manufacturing organizations in screening out products whose values are not given enough weight by consumers to generate a profit. Service organizations, however, must administer services, policies, and objectives that are inevitably high in value-density; any given service, or the policy or objective from which it derives, may quite easily focus values over which citizen clients, politicians and public officials disagree.[15] In the attempt to satisfy conflicting values, and without quantifiable means to measure the value of innovation, such organizations may more readily adhere to the status quo.

These problems associated with service organizations —the nature of the good produced and its value density present a damning case against innovation in this sector. Some writers even go so far as to claim that service organizations are inherently incapable of innovation. Drucker believes that government organizations, for example, are of necessity concerned with procedure, are therefore large and cumbersome, and must control and regulate for everything. Government is thus "legitimately a conserving, protective organization (that is) unable to innovate ..." (op. cit., p. 226).

Drucker's position, if extended from governmental to all service organizations, assumes the absence of any or all conditions considered critical for innovation among both post-bureaucratic essayists and the organization theorists of innovation. His dismissal of the possibilities for innovation in governmental organizations will be carefully examined in Part II of this paper with respect to one service agency -- the New York City Board of Education. The analysis will be set in a framework which links the principles of organizational structure and procedure of post-bureaucratic organization to real situations and includes as well educational theorists concerned with innovative possibilities in school systems.

PART II

The New York City school system has traditionally constituted a highly bureaucratic agency.[16] If the structural and procedural principles of organization identified as critical to innovation [17] indeed prove applicable in such a setting, then generalizations from them to other organizations can be more comfortably made.

School Systems as Formal Organizations

While school systems resemble organizations in most of their structural features, they have certain unique qualities which effect their ability to initiate innovation. The main specific characteristic of school systems is that they are service organizations. As such, the public tends to judge their performance according to its own perceived value. Educational systems themselves, on the other hand, continue to judge their own performance by what they can demonstrate to be the client's welfare. Given this discrepancy, the initiation of an innovation can be hindered by three factors which Sieber

isolates as critical.[18] The first is the vulnerability of the school organization to the social environment. Service organizations tend to hold natural monopolies over many services; they can determine their own criteria of organizational performance until public pressure is applied. Thus, when the system expects that a proposed innovation will be, or actually is, opposed by external groups, the innovation will tend to be more easily resisted by the organization which attempts to define and maintain its perceived welfare. The second is the value-density of educational goals, which can often lead to an absence of internal agreement on ways of attaining goals. In the attempt to satisfy conflicting values, and without means to measure the impact of innovation, such organizations will more readily adhere to the status quo. Finally, educational systems, due to their size, develop complicated systems of coordination. When a new concept is introduced into the system, it tends to upset existing mechanisms of coordination and control. Thus, when the process of coordinating and controlling clients and employees of the system becomes more problematic, adherence to traditional methods increases.

These organizational constraints on initiating an innovation can, however, be superceded by certain characteristics of the innovation itself. For years many theorists (Miles, 1964, Rogers; 1965; Giacquinta, 1973) have agreed that among the attributes accounting for positive consideration of an innovation in school systems, the best single predictor is educational cost per student.[19] "An innovation's cost may be more important ... in schools than in other organizational settings since without good measures of output and the presence of vague possible rewards, educational organizations tend to stress costs and the reduction of costs as the basis for justifying adoption of innovations" (Giacquinta, 1973a, p. 11).

Linked to this variable is divisibility, or the ease with which an innovation can be tried on a limited basis. Giacquinta notes that "an innovation's divisibility may be a more important property ... in schools than in other types of organizations since highly divisible innovations may cost less and create a less formidable obstacle" (Ibid).

Certain structural conditions of a service organization can also counteract other organizational characteristics and override restraints toward innovation. Greiner's (1967) study of eight school systems, for example, revealed that "successful" introduction of an innovation into the system was preceded by a build-up of outside pressure which generated internal "tension". Outside pressure served to raise the system's level of anxiety which caused it to increase its search for relief and subsequently make it susceptible to change.

As a typical service organization, the New York City school system traditionally has responded to its monopoly of educational services and the pressure of its high value density by perpetuating the status quo.[20]

Increasingly, however, it has allowed informal and formal mechanisms for developing innovative programs to emerge. As in other service organizations, for example, more planning is being undertaken, which tends to maximize the possibility of initiating innovation (Berkley, 1971, Chapter 1). Further, administrators in the New York City school system, again as in other service organizations, are realizing that the chances for innovation can be maximized by increasing the number of projects and programs run on an experimental, small-scale (but replicable) basis. This allows the organization to evaluate the consequences of the innovation much earlier and more safely, thereby encouraging it to take the risks necessary to experiment with, and initiate, still more new ideas.

Initiating Innovation in the New York City Board of Education: A Service Organization Under Investigation

The following case study reviews describe the probable factors accounting for the differential outcomes of several among the many proposals for innovation brought to the attention of the New York City Board of Education[21] during the years 1970-1973.* The cases that follow are analytical descriptions of change efforts in one school system. They do not have the benefit of control groups or the statistical data characteristic of rigorous experimental research, although information is presented about processes, problems identified and solved, and end products. It is acknowledged that the examples cited represent a subjective selection by the authors, and the examination of their features the reviewers' particular perception. Nonetheless, the analysis is based on the theoretical context developed in the first section of this paper. Where analysis and situation are unique and unprecedented by prior substantiation, they represent suggestions and are open to discussion.

As other municipal service agencies, New York City's school system encompasses an extensive structure in which many vested interests participate. Therefore, when recommendations are made which imply extensive redefinition of the structure of the organization, they are usually ignored.[23] Two cases, somewhat similar in development, illustrate this point.

During 1970, an extensive study was conducted by one of New York City's research agencies which compared the city's manpower needs to the number of students the board of education was graduating in each occupational area. The research revealed a mismatch between manpower needs of the job

*The examples deal with one specific level of operation: the centralized administrative organization as a whole rather than each district school or classroom. While innovation may, of course, be introduced into the system on any level, local or centralized, the unit of study isolated here is the superstructure rather than the agency's individual components.[22]

market and the type of training being provided by the board of education. For several months thereafter, members of the municipal research agency attempted to influence the board of education to initiate change based on the study's recommendation that the mismatch be altered by expanding enrollment and facilities in certain unfilled and expanding career areas, and conversely by reducing enrollment and facilities in specified over supplied, increasingly obsolescent career sectors. Despite many attempts, and some pressure, the board of education remained unreceptive.

Similarly, a Report expressing the joint position of an outside municipal agency and one department in the board of education on the issue of high school scheduling was submitted to the school system. The Report indicated that high school overcrowding could be significantly, quickly and cheaply relieved through various alternate scheduling patterns such as evening, full-year and end-to-end sessions. Such scheduling could be initiated without altering existing school district zoning patterns and teacher assignments. Although the recommendations of this Report were supported by the then present Chancellor, again no effort was made by the organization itself to initiate the proposed suggestions.

In both cases, educational innovation could not be generated because the studies recommended a system-wide revamping rather than providing solutions which would be undertaken on a smaller but initially more manageable scale. Divisibility, in the form of a prototypical model, was ignored as a way of

introducing the proposed innovation, thereby foreclosing client pressure on the system around a specific issue and ease of potential implementation. Similarly, since cost was neglected as a consideration, whatever repurcussions emerged from the initial investment would be significant.

The importance of establishing specific models which are experimental and thereby reduce the risk of significant cost and the policy commitments which might generate organizational upheaval is highlighted by the further development of both studies. A half a year after the Manpower Report had been presented to the New York City school system, its Chancellor and the Administrator of the Human Resources Administration fortuitously met to discuss their common interest in programs that would guide disaffected youths into viable career-oriented programs. As a result of the meeting, the two administrators appointed a committee to initiate structuring of collaborative programs. Members of the committee were drawn from different organizations and represented different areas of expertise (e.g. board of education representatives were experienced in the development of curriculum,and accreditation requirementsand procedures; City Planning Department members of the committee were knowledgeable in Capital Budget methods and in determining and acquiring necessary sites).

At the Committee, the findings of the original Manpower Report were translated into an implementable model by outlining a program in which students could be trained in a progression of skills in an area of expanding need. The program represented a tangible example of joint services planned by several different municipal agencies working together to meet the needs of disaffected youth, and responding to the overall manpower requirements of the City job market. As a mechanism to generate Board of Education acceptance of the program, the Committee publicly introduced the program to the media as the Satellite Academies: small, independent schools

in which high school students would receive interrelated academic preparation, skills training and work experiences, linked to specific opportunities in industry. This process increased pressure on the educational system to accept the Committee's model.

Furthermore, in order to allow for a quick and efficient transition from planning to actual introduction into the organization, the Committee assumed certain responsibilities. The preliminary details necessary to formulate the budget, to recruit students, to authorize the facilities through the site selection process, and to select staff were clearly defined and each agency and/or department exerted pressure in the area where it had the power or prestige to resolve these issues. Even though each compoent --e.g. budgetary allocations, number of personnel needed-- had been carefully planned conceptually, mechanisms for establishing the transition from the plan to the working model had to be initiated. Once these mechanisms were generated, responsibility for implementation was turned over to a director, chosen by the Committee, and approved by the Board of Education and the Human Resources Administration. However, in order to measure the program's success, monitoring procedures were established by the Committee; these procedures represented an extension of the planning role rather than an administrative function.

The case of the Scheduling Report was similar in development. A specific high school in which one such alternative - the evening session - could be instituted was isolated as an experimental model. Again, an inter-agency, intra-departmental Committee was established and alternative ways in which the program could be instituted were discussed. Once an alternative was chosen, comparable responsibilities (budgeting, facilities acquisition, curriculum design) related to each planning member's professional expertise were assigned and individual influence exerted in the appropriate functional areas. Here again, once preliminary planning had been accomplished and initial mechanisms for implementation established, actual decision-making

was turned over to a subsequently appointed administrator.

Several conditions inherent to either one or both cases appear important for initial acceptance of an innovative program. First, outside exposure of the program — first to other municipal agencies and then to the press, as in the case of the Satellite Program — creates pressure to undertake the innovation. Once revealed, the innovation loses its value density since the educational system feels vulnerable to the public's expectations. Further, the creation of an inter-agency, collateral group to generate and plan the innovation is critical. The pooling of specialized expertise allows for inventive decision-making regarding alternatives, given necessary knowledge to judge options described by Gailbraith and Zand as characteristic of collegial groups (see page 9). Still further, the cases suggest that educational innovation can best be initiated within a framework divisible into models rather than through proposed total institutional adjustment. [24] As Peterson notes, it allows for "bureaucratic safety" since it can be tested on a small scale, thereby insuring minimum repurcussions and a more easily rectificable response or abandonment in the event of partial or complete failure.

An additional case sheds light on other probable conditions necessary for initial acceptance of individual proposals for educational innovation. The development of a Medical Services High School highlights the need to recognize vested interests within the organization in order to introduce innovative programs.

For several months, two professional staff members at central headquarters of the board of education were involved in research which

touched on policy issues concerning several functional units within the organization. Given the autonomy to research the conditions of existing health career offerings, they found that these training programs constituted fragmented, isolated offerings in various schools with no continuity and system-wide coordination, and with training essentially in low-skilled entry positions which provided no advancement or promotion possibilities.

The two staff members recommended to line heads of various divisions within the central administration that one high school, combining these programs and allowing for training in a total spectrum and progression of health career opportunities, be established. Programs would be coordinated with post-secondary institutions so as to allow students easy transferance into the upper levels of their occupational goals.

In order to help convince board of education administrators of the proposal's value, support was first elicited from academic and medical institutions outside the board of education. These institutions agreed to actively participate in developing such a school and their commitment was communicated to the school system through letters. By forcing the board of education to recognize outside pressure, two goals were accomplished. The program's results were defined in reference to its clients, narrowing the distance between perceived and demonstrable welfare, and the organization was committed to initiate the innovation. This procedure served the same purpose as exposing the Satellite Academy program to the public media. The build-up of outside pressure which Greiner (1967) isolates as critical to introduction of an innovation forced the organization to follow-through: its performance was now visible.[25]

Once support for the Medical Services High School had been successfully communicated to the school system,[26] every relevant division in the organization was contacted by the two program planners who were not aligned to any specific bureau or division, and the suggestions were incorporated by these professionals into the planning proposal. This process was essential in order to prevent any interests from being ignored, any critical component from being omitted, and the commitment required of each division to participate and cooperate in establishing the school from being thwarted.

As a result, the guidelines for planning the school included several essential components. As many on-going functions as possible were utilized, e.g. central core of school to be housed in an existing high school structure, with the same principal, with already equipped facilities and with a student body already partially enrolled in health careers. Existing programmatic units were retained so that no one would be threatened by extinction and there would be no upheaval of positions, organization and student body. Finally, a staged development was specified, the model being gradually phased into the existing school, thereby reducing any organizational turmoil. Thus, although the proposal aimed at total revision of health career training, the initial stages consisted only of the addition of a new program to an existing structure (incremental displacement).

Generalizations from Specific Cases and Relevance to Criteria Enumerated in the Literature

Certain general conditions, suggested by the literature on organizations and educational systems are confirmed by the case studies presented. First, as suggested by Gailbraith, innovation is initiated not by managerial members of an organization, but by specialists, in the capacity either as outside

consultants or inside staff professionals. Once initiated, the planning of change is conducted by a group divorced from the administrative structure of the organization. After planning, the innovative program is transferred to organizational implementors or a specifically appointed director, responsible for administration and accountable to the system's professionals.

The process and its value are exemplified by the establishment of the inter-agency teams to develop the ideas, and plan the method of implementation, of both the Satellite Academies and the Evening High School. First, the specialized knowledge of individual members on the team (manpower statistics, budgeting, recruiting) provided the expertise necessary to make effective choices among available alternatives and to concentrate appropriate individual efforts and expertise in relevant areas. Secondly, since the team's purpose was only to plan and initiate the innovation on a model basis, and since the program's reputation was to draw from all agencies involved, there existed no far-reaching or manifest threat to the individual members who sat on the task force. Rather, a desire to create a product representative of inter-agency input served as the basis upon which to develop a successful program. The short range responsibility of the task force also uncovers another characteristic of collateral organizations identified by Miles (1964a): brought into existence with the understanding that it will have limited duration, a collateral organization is unlikely to internalize formal norms or to develop structural ties which curtail flexible problem solving. Third, free from the direct effect of the innovation proposed, members of the committee were able to make suggestions that perhaps they could not have perceived were their own positions involved in the program's implementation. Finally, separation of the process of initiating innovation from the process of managing the new program freed up time of the committee members to expand on ideas, make necessary contacts, monitor progress, and oversee the process as a totality.

Finally, provision was made for testing the innovation's effectiveness in order to substantiate possible replication.

LINKAGES

To the extent that school systems, as service organizations and public agencies, have been accused as totally lacking in potential to innovate, Drucker's position must be, if not definitively challenged, at least questioned. Both the structural principles and procedural conditions -- identified by the post bureaucratic essayists and theorists of orgarizational innovation -- that are required to initiate innovation seem adaptable not only to manufacturing but to service and governmental organizations as well.

First, mechanisms are being used to isolate the planning from managerial processes. Not only are professionals being hired to assume responsibility for such a function but they are also being allowed the autonomy to research issues which overlap administrative lines and to provide recommendations based on their analyses. Furthermore, small problem solving groups are being accepted as legitimate planning structures.**

**During the fall of 1972 and Spring of 1973, a small group was formed in the New York City board of education to plan overall policy for alternate high school education and to determine the viability of individual alternative programs. The position and decisions of the Committee served as the basis upon which alternate programs were accepted, funded and developed. Simultaneously, during the Spring of 1973 an ad-hoc group of administrators within the central board of education decided to meet regularly for lunch on Fridays to communicate information, share thoughts, and discuss possibilities for developing innovative programs. The group met on a totally informal basis, with no set goals or definitive purpose, other than to nurture possible ideas for innovation. However, from the assembled specialized expertise emanated planning guidelines, a set of accepted procedures, list of contact people, and suggestions of available financial resources to initiate programs which, through these mechanisms, were later implemented.

Serving as professional collegial groups, specific expertise is being applied by them to make choices among varying alternatives and to translate generalized program goals into actual means of introducing a specific innovation into the system. Beyond this however, such groups are also beginning to extend the function of initiating innovation from a random to a systematic process by demonstrating an experiment's value and identifying the resources necessary to reproduce the initial model. Simultaneously, the use of model programs is being systematized through the application of evaluation and monitoring techniques, conducted on a periodic and formalized basis. These conditions are reducing the problems of value-density pinpointed by Drucker as underlying the stagnation of service organizations.

As such structures and processes proliferate to solve the system's needs and to instill new approaches into the traditional organization, their viability becomes more overt and often demanding. In order to insure therefore that such critical post-bureaucratic features as the development of collegial groups, the experimentation of model prototypes, and the separation of planning from the process of management remain operational, the formal organization must encourage certain conditions to exist. Unless school systems are willing to free staff members from bureaucartic duties to concentrate their efforts on research that spans line demarcations and to develop recommendations from such investigation, unless they are prepared to provide time for their specialists to move from committee to committee and confer with other experts in different groups created to discuss or resolve specific issues, preliminary trends will remain embryonic.

FOOTNOTES

1 This paragraph draws on Warren Bennis, in Bennis (ed.), pp. 9-13.

2 See Boulding (1953), Thompson (1965), Berkley (1972), Drucker (1968), Slater & Bennis (1968), Toffler (1970).

3 Dale Zand refers to these groups as "collateral organizations": parallel to, or possibly coexisting within, bureaucratic structures. Collateral groups are comprised of members from a larger organization who possess norms different from those usually in force; collateral groups are used to identify and solve apparently intractable problems, and to supplement the existing formal organization.

4. This, and the following paragraph draw on Galbraith (1967), pp. 75-81.

5. James Thompson, in Bennis (1970), p. 124.

6 Marvin Bower, in Gary Steiner (1965), p. 175.

7 Zand (1974) and Miles (1964) point out that such collateral organizations are mechanisms limited in duration because they are created in reaction to specific organizational needs and strains.

8 A collateral organization has the following characteristics: a) All channels are open and connected; b) There is a rapid and complete change of relevant information; c) Norms encourage careful questioning and analysis of goals, assumptions, methods, alternatives and criteria for evaluation; d) A manager can approach and enlist others in the organization to help solve a problem, without being restricted to his formal subordinates (Zand, 1974).

9 Bower, in Steiner, op. cit., p. 174.

10 Peter B. Peterson, in Steiner, op. cit., p. 185.

11 Harold Guetzkow, in Steiner, op. cit., p. 38.

12 Katz and Eisenstadt, in Etzioni (Ed.), p. 232.

13 James Q. Wilson, in Bennis, op. cit., p. 159.

14 Katz and Eisenstadt, in Etzioni (Ed.), (Ibid).

15 Charles Lindblom, in Etzioni (Ed.), op. cit., p. 157.

16 George Strayer and Louis Yavner (1951), as quoted in Rogers (1968), p. 4; David Alison (1951), as quoted in Rogers (Ibid); Rogers, op.cit., Introduction.

17 "Innovation" has been used to describe many types of conditions by people associated with school systems. We limit the discussion of innovation to specifically new educational methods (open schools) and procedures (new Math) rather than to comprehensive systematic changes affecting the operating procedures and structure of the entire school system.

18 These factors are identified by Giacquinta in Giacquinta (1973), p. 195.

19 As recently reiterated by Pincus (1974), this view was derived from extensive studies of school district administration conducted by the Institute of Administrative Research at Columbia University Teachers College.

20 Rogers (Ibid), Chapter 8.

21 Throughout this article the term "board of education" refers to the school system's organizational structure rather than to the Board of Education representatives serving as its formal policy makers.

22 Acceptance of proposals for innovation implies a policy decision mandated down to the individual microcosms by the core staff of the board of Education.

23 Rogers (Ibid), Chapter 8.

24 A limited model constitutes an exemplary how-to kit rather than a complete restructuring of one of the organizational lines of operation and therefore is more readily accepted by the system.

25 In the case of the Medical Services High School, the procedure was used as an incentive to initial consideration of the idea by the educational system. In the Satellite Academy situation, however, it was used as a reinforcing factor: it created the necessary self-consciousness in the organization to focus its efforts on introducing the innovation into the system.

26 Documentation of the proposal and letters of support are on file in the Division of Educational Facilities Planning, New York City Board of Education.

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